HARVARD UNIVERSITY
THE BIOLOGICAL LABORATORIES
16 DIVINITY AVENUE
CAMBRIDGE 38, MASSACHUSETTS

February 3, 1961

Dr. Joshua Lederberg
Department of Genetics
School of Medicine
Stanford University
Stanford, California

Dear Lederberg:

I have just been reading, with much enjoyment, your "A View of Genetics", in which it seems to me you cover an amazing amount of ground, with great clarity. I am moved to ask a question in regard to the last section on the creation of life. You regard DNA and its accompanying machinery as part of "the least requirements of a primeval organism." Is this really so? If the simplest organism was one which grew and metabolized and occasionally divided up vegetatively, would the DNA system be essential? If early organisms were derived from organic material produced by UV irradiation, etc., may we not assume that some enzyme proteins were among those formed in this way? Furthermore, as I have suggested in "The Life of Bacteria", early organisms may have lived very slowly and some of their reactions may have been metal-catalyzed and not enzymatic at all. The development of the DNA system would then be regarded as a further step in evolution. Do you regard this as wishful thinking? It certainly seems desirable to try to avoid a situation in which many complex substances must be developed at once.

I would be grateful for your comments.

Yours sincerely,

Kenneth

Kenneth V. Thimann